

WHAT IS CLAIMED IS:

1. A control device for an engine of a vehicle, the engine comprising an operating device which operates the engine under an electronic key system comprising a portable electronic key which emits an identification code, and an identification device mounted in the vehicle to verify the identification code of the electronic key, the control device comprising:

a programmable controller programmed to:

control the operating device to execute an idle stop which stops the engine under a predetermined stop condition;

control the operating device to restart the engine during the idle stop when any of a plurality of restart conditions are satisfied, the restart conditions including a restart request from a driver of the vehicle;

determine whether or not the engine is in the idle stop;

determine whether or not a restart condition is satisfied which does not correspond to a restart request from the driver during an idle stop;

control the identification device to verify the identification code of the electronic key when a restart condition is satisfied which does not correspond to the restart request from the driver during the idle stop; and

prohibit the operating device from restarting the engine when the identification device has failed in verifying the identification code.

2. The control device as defined in Claim 1, wherein the vehicle comprises accessories, a battery which supplies electrical power to the electronic apparatuses, and a switch which cuts off the supply of electrical power from the battery to the

accessories at an OFF position, and the controller is further programmed to place the switch in the OFF position when the identification device has failed in verifying the identification code.

3. The control device as defined in Claim 1, wherein the vehicle comprises a driver's seat in which a driver is seated, and the control device further comprises a switch which detects whether or not the driver's seat is being used, and the controller is further programmed to allow the operating device to restart the engine when the driver's seat is occupied even when the identification device has failed in verifying the identification code.

4. The control device as defined in Claim 1, wherein the vehicle comprises a door, and the control device further comprises a switch which responds to the opening or closing of the door, and the controller is further programmed to control the operating device to restart the engine when the door is open during the idle stop, control the identification device to verify the identification code of the electronic key when a predetermined time period has elapsed after the restart, and control the operating device to stop the operation of the engine when the identification device has failed in verifying the identification code.

5. The control device as defined in Claim 4, wherein the vehicle comprises accessories, a battery which supplies electrical power to the accessories, and a switch which cuts off the supply of electrical power from the battery to the accessories at an OFF position, and the controller is further programmed to place the switch in the OFF position after stopping the operation of the engine when the identification

device has failed in verifying the identification code after the restart of the engine.

6. The control device as defined in Claim 4, wherein the controller is further programmed to determine whether or not the vehicle has a history of running after restarting of the engine, and to control the operating device not to stop the operation of the engine if the vehicle has a history of running after restarting the engine even when the identification device has failed in verifying the identification code.

7. The control device as defined in Claim 6, wherein the controller is further programmed to control the operating device to stop the operation of the engine when a predetermined stop condition is satisfied even when the vehicle has a history of running after restarting the engine.

8. The control device as defined in Claim 4, wherein the vehicle comprises a driver's seat in which a driver is seated, and the control device further comprises a switch which detects whether or not the driver's seat is being used, and the controller is further programmed to control the operating device not to stop the operation of the engine when the driver's seat is being used even when the identification device has failed in verifying the identification code.

9. The control device as defined in Claim 7, wherein the controller is further programmed to control the operating device to stop the operation of the engine when a predetermined stop condition is satisfied even when the driver's seat is being used.

10. The control device as defined in Claim 4, wherein the controller is further programmed to control the operating device to stop the operation of the engine when a predetermined stop condition is satisfied when the identification device has successfully verified the identification code.

11. A control device for an engine of a vehicle, the engine comprising an operating device which operates the engine under an electronic key system comprising a portable electronic key which emits an identification code, and an identification device mounted in the vehicle to verify the identification code of the electronic key, the control device comprising:

means for controlling the operating device to execute an idle stop which stops the engine under a predetermined stop condition;

means for controlling the operating device to restart the engine during the idle stop when any of a plurality of restart conditions are satisfied, the restart conditions including a restart request from a driver of the vehicle;

means for determining whether or not the engine is in the idle stop;

means for determining whether or not a restart condition is satisfied which does not correspond to a restart request from the driver during an idle stop;

means for controlling the identification device to verify the identification code of the electronic key when a restart condition is satisfied which does not correspond to the restart request from the driver during the idle stop; and

means for prohibiting the operating device from restarting the engine when the identification device has failed in verifying the identification code.

12. A control method for an engine of a vehicle, the engine comprising an operating device which operates the engine under an electronic key system comprising a portable electronic key which emits an identification code, and an identification device mounted in the vehicle to verify the identification code of the electronic key, the control method comprising:

controlling the operating device to execute an idle stop which stops the engine under a predetermined stop condition;

controlling the operating device to restart the engine during the idle stop when any of a plurality of restart conditions are satisfied, the restart conditions including a restart request from a driver of the vehicle;

determining whether or not the engine is in the idle stop;

determining whether or not a restart condition is satisfied which does not correspond to a restart request from the driver during an idle stop;

controlling the identification device to verify the identification code of the electronic key when a restart condition is satisfied which does not correspond to the restart request from the driver during the idle stop; and

prohibiting the operating device from restarting the engine when the identification device has failed in verifying the identification code.